CLAIMS

1. A system for converting an airflow into mechanical or electrical energy comprising:

a tubular member, the tubular member having a first opening and a second opening, the first and second openings formed in two planes substantially perpendicular to a longitudinal axis of the tubular member;

a substantially planar leading edge member positioned on windward side of the first opening; and

an energy conversion device configured to convert an airflow through the tubular member into mechanical or electrical energy.

2. The system of Claim 1, wherein the leading edge member is in a plane which is substantially parallel to the longitudinal axis of the tubular member.

3. The system of Claim 1, wherein the tubular member has a circular cross-section.

4. The system of Claim 1, wherein the substantially planar leading edge member has a width which is about equal to or less than a diameter of the tubular member.

5. The system of Claim 1, wherein the energy conversion device is a turbine.

6. A system for converting an airflow into mechanical or electrical energy comprising:

a drawtube, the drawtube comprising:

a tubular member with a circular cross-section, the tubular member having a first opening and a second opening, the first and second openings formed in two planes substantially perpendicular to a longitudinal axis of the tubular member;

a substantially planar leading edge member positioned on a windward side of the first opening; and

a scoop member positioned on an opposite side of the second opening from the leading edge member, wherein the substantially planar leading edge member and the scoop member are in two planes which are substantially parallel to the longitudinal axis of the tubular member; and

an energy conversion device configured to convert an airflow through the tubular member into mechanical or electrical energy.

7. The system of Claim 6, wherein the substantially planar leading edge member has a width which is about equal to or less than a diameter of the tubular member.

8. The system of Claim 6, wherein the scoop member has a width which is about equal to or less than a diameter of the tubular member.

9. The system of Claim 6, wherein the drawtube is positioned in a substantially vertical position relative to a ground surface.

10. The system of Claim 6, wherein the drawtube is positioned in a substantially horizontal position relative to a ground surface.

11. The system of Claim 6, further comprising a means for positioning the drawtube into the airflow, wherein the substantially planar leading edge member is facing substantially into the airflow.

12. The system of Claim 6, wherein the drawtube is canted away from the airflow at an angle of about 0 to about 45 degrees with a free end of the leading edge member positioned aft and a free end of the scoop positioned forward.

13. A system comprising a plurality of the drawtubes of Claim 6, wherein the plurality of drawtubes are assembled in an array of two or more drawtubes.

14. The system of Claim 13, wherein a plurality of the panels are positioned at an angle of between about 25 to 40 degrees to one another.

15. The system of Claim 6, wherein the substantially planar leading edge member is about 1/4 to about 3/4 of an overall length of the drawtube.

16. The system of Claim 6, wherein the scoop member is about 1/4 to about 3/4 of an overall length of the drawtube.

17. The system of Claim 6, wherein the tubular member is composed of straight planar sections with connecting angles in an approximation of a circular cross-section.

18. The system of Claim 6, further comprising a support structure for rotatably supporting the drawtube, the support structure orienting the drawtube so that the substantially planar leading edge member is facing into the airflow.

19. The system of Claim 6, further comprising a support structure for rotatably supporting the leading edge member and the scoop so that the leading edge member is facing into the airflow.

20. The system of Claim 6, wherein the energy conversion device is positioned in the tubular member.

21. The system of Claim 6, wherein the energy conversion device is positioned outside the tubular member and is connected to the tubular member by an air passageway.

22. A system for converting wind into mechanical or electrical energy, the system comprising:

a drawtube comprising:

a tubular member having a longitudinal axis, an inside, an outside, a first open end and a second open end; and

a leading edge positioned adjacent to the outside of the first open end of the tubular member configured to create a pressure differential within the tubular member when wind blows past the drawtube generating an airflow within the tubular member; and

an energy conversion device configured to convert the airflow through the tubular member into mechanical or electrical energy.

23. The system of Claim 22, further comprising a support structure for rotatably supporting the drawtube, the support structure orienting the drawtube so that the leading edge is faced into the wind.

24. The system of Claim 22, further comprising an airflow direction sensor and a motor for rotating the drawtube in response to the airflow direction sensor.

25. The system of Claim 22, wherein the tubular member is cylindrical.

26. The system of Claim 22, wherein the tubular member is conical.

27. The system of Claim 22, wherein the substantially planar leading edge member is in a plane which is substantially parallel to the longitudinal axis of the tubular member.

28. The system of Claim 21, wherein the energy conversion device is positioned within the tubular member.

29. The system of Claim 21, wherein the energy conversion device is an airflow turbine.

30. The system of Claim 21, further comprising an embedded drawtube with an inner tubular member and an inner leading edge within the tubular member and located with a longitudinal axis of the embedded drawtube positioned across an axis of the tubular member.

31. A method for collecting wind energy comprising:

providing a drawtube comprising a tubular member having a pair of openings extending perpendicular to a longitudinal axis of the tubular member and a substantially planar leading edge member positioned in front of one of the openings;

positioning the drawtube in the wind with the substantially planar leading edge member facing into the wind;

passing wind around the substantially planar leading edge member, the airflow creating eddies in and around the tubular member and the substantially planar leading edge member;

creating an airflow within the tubular member; and

converting the airflow to mechanical or electrical energy.

32. The method of Claim 31, further comprising positioning a scoop member in back of a second opening of the pair of openings.

33. The method of Claim 31, further comprising assembling a plurality of drawtubes in an array of at least two drawtubes.

34. The method of Claim 31, further comprising canting the drawtube away from the wind at an angle of about 0 to about 45 degrees with a free end of the leading edge member positioned aft of a forward edge of the tubular member.

35. The method of Claim 31, further comprising positioning the drawtube on a support structure for rotatably supporting the drawtube, the support structure orienting the drawtube so that the substantially planar leading edge member is facing into the wind.